

What is claimed is:

1. A radiation image readout apparatus, comprising  
an illuminating means for illuminating with an excitation  
light in a line form a portion of the surface of a stimuable  
phosphor sheet on which a radiation image has been stored,

a focusing optical system provided with a focusing lens  
for focusing the stimulated emission emitted from a portion of  
the stimuable phosphor sheet upon the illumination thereof by  
the excitation light emitted from the illuminating means in a  
line form and a detecting means provided with a line sensor, which  
is formed of a plurality of photoelectric converting elements  
arranged in a straight line and at a uniform pitch, for receiving  
and photoelectrically converting a stimulated emission focused  
by the focusing optical system,

a scanning means for moving the illuminating means and the  
detecting means relatively from one end of the stimuable phosphor  
sheet to another in a direction differing from that of the  
lengthwise direction of the illuminated portions, wherein

the MTF of the focusing optical system is 50% or less of  
the Nyquist frequency determined by the aforementioned uniform  
pitch.

2. A radiation image readout apparatus as defined in claim  
1, wherein

the MTF of the focusing optical system is 20% or less of  
the Nyquist frequency determined by the aforementioned uniform  
pitch.

3. A radiation image readout apparatus, comprising  
an illuminating means for illuminating with an excitation  
light in a line form a portion of the surface of a stimuable  
phosphor sheet on which a radiation image has been stored,

5 a focusing optical system provided with a focusing lens  
for focusing the stimulated emission emitted from a portion of  
the stimuable phosphor sheet upon the illumination thereof by  
the excitation light emitted from the illuminating means in a  
line form and a detecting means provided with a line sensor, which  
10 is formed of a plurality of photoelectric converting elements  
arranged in a straight line and at a uniform pitch, for receiving  
and photoelectrically converting a stimulated emission focused  
by the focusing optical system,

15 a scanning means for moving the illuminating means and the  
detecting means relatively from one end of the stimuable phosphor  
sheet to another in a direction differing from that of the  
lengthwise direction of the illuminated portions, and

20 a readout means for reading out the output of the line sensor  
in the order corresponding to the movement thereof, and obtaining  
the data forming the final image, wherein

said uniform pitch is less than the width of the pixels  
of the final image, further comprising

25 a pixel-density converting filter for converting the image  
signal of the pixel density outputted from the line sensor based  
on said uniform pitch to the pixel density of the final image,  
wherein

the frequency characteristic of the pixel-density  
converting filter is 50% or less of the Nyquist frequency  
determined by the pixel density of the final image.

4. A radiation image readout apparatus as defined in claim

5 3, wherein

the frequency characteristic of the pixel-density  
converting filter is 20% or less of the Nyquist frequency  
determined by the pixel density of the final image

5 10 5. A radiation image readout apparatus as defined in either  
of claims 1 or 3, wherein

the width of the interval of the direction in which the  
portions of the stimuable phosphor sheet that have been  
illuminated with the excitation light in a line form are relatively  
moved is narrower than the width of the pixels of the final image,  
15 further comprising

a second pixel-density converting filter is provided for  
converting the pixel density based on the width of the interval  
in the direction in which the image signal output by the line  
sensor is relatively moved to the pixel density of the final image,

20 wherein

the frequency characteristic of the second pixel-density  
converting filter is 50% or less of the Nyquist frequency  
determined by the pixel density of the final image.

6. A radiation image readout apparatus as defined in claim

25 5, wherein

the frequency characteristic of the second pixel-density

converting filter can be caused to be 20% or less of the Nyquist frequency determined by the pixel density of the final image.

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